

ATTACHMENT B**SUBSTITUTE SPECIFICATION**

(Showing All Changes Made to the Specification and Abstract in International Application No. PCT/SE2005/000172)

METHOD OF ESTABLISHING COOPERATIVE SERVICES IN A COMPUTER SYSTEM**BACKGROUND OF THE INVENTION****FIELD OF THE INVENTION**

The present invention relates to a method of achieving co-acting services in a data system.

DESCRIPTION OF THE RELATED ART

There is described in European Patent Specification No. 0 928 548 a prior art system for executing a telephone service ~~where said~~ , wherein the service is executed by calling a number of transactions from a database containing ~~said the~~ transactions, ~~whereafter~~ after which the services are executed. ~~This~~ That system is tied to a local system, in other words execution takes place on the computer called directly or indirectly by a client.

With regard to the management of greater and more complex services, it is probable that more than one called computer will be required to participate in the processing of information and the execution of the services.

~~This~~ That problem is resolved by means of the present invention, which enables several computers to co-act with one another.

SUMMARY OF THE INVENTION

The present invention thus relates to a method of achieving mutually co-acting services in a data system that includes telephone services and/or data services ; ~~wherein said~~ . The data system includes a first computer system and at least one further, a second, computer system, wherein each computer system includes a computer with associated memories , ~~wherein the~~ . The first and the second computer ~~system~~ systems are respectively connected to at least one communications database that includes communications services, particularly telephone and data services, stored as transaction references, i.e., as references to transactions , ~~wherein the~~ . The computer system is adapted to execute the communications services in accordance with a data program, wherein at least one transactions database connected to each computer ~~is caused to contain~~ contains a predetermined number of transactions that are identified by ~~said the~~ the transaction references , ~~wherein each~~ . Each transaction is in the form of parts of a data program and ~~wherein~~ respective computer systems ~~are caused to~~ fetch one or more transactions from ~~said the~~ the transaction database or databases, ~~said the~~ the transactions together forming a data program for executing ~~said the~~ the services , ~~and wherein the invention is characterised in that said~~ . The transactions include instructions concerning ~~said the~~ the services and also other concerned services that ~~shall~~ are to be executed by the data system ; ~~in that initiation~~ . Initiation to fetch transactions for execution in the data system ~~is caused to take~~ takes place by means of a call incoming to the system from a telephone, or from an external computer to which a communications service is tied in the communications database ; ~~in that the~~ . The call includes an information part in the form of an

identification of the ~~called~~ calling party (ID) and an indication of the type of call ~~and in that the~~ . ~~The~~ first computer system and the second computer system ~~are caused to~~ have an execution environment such that generally all execution processes and all instructions from a computer system to other computer systems in the data system are ~~caused to be effected through the agency of said~~ the transactions ; ~~and in that given~~ . Given transaction references identify transactions which upon execution cause the service concerned to be transferred to a computer system other than the call-receiving computer system [[,]] for execution of the earlier-mentioned computer system [[:]] , and ~~in that said~~ the information part is transferred in ~~said~~ the transfer process.

BRIEF DESCRIPTION OF THE DRAWING

The present invention will now be described in more detail ~~partly~~ with reference to an exemplifying embodiment illustrated in the accompanying drawing, in which

- Figure 1 is a block diagram of two mutually co-acting computers in a data system.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Figure 1 illustrates two mutually co-acting computer systems, each ~~comprising~~ including a computer system 1, 2 with associated databases.

Each computer system 1, 2 is connected to at least one communications database 3, 4 that includes communications services, particularly telephone and data services, that are stored as transaction references (TRS), i.e., as references to transactions , ~~where said~~ . The computer systems are adapted to execute the

communications services in accordance with a data program. Each computer system 1, 2 has connected thereto at least one transaction database 5, 6, ~~which are caused to~~ databases contain a predetermined quantity of transactions that are identified by ~~said~~ the transaction references.

Each transaction is defined by means of ~~said~~ the transaction references, for instance by the two transaction references referenced TRS.10 and TRS.12. The transactions *per se* are in the form of parts of a data program, ~~wherewith~~ wherein the computer systems ~~are caused to~~ fetch one or more transactions from ~~said~~ the transaction database or databases, ~~these~~ the transactions forming together a data program for executing ~~said~~ the service.

According to the invention, ~~said~~ the transactions include instructions relating to ~~said~~ the services and also to additional services that ~~shall~~ are to be executed by the data system ~~comprising~~ that includes two or more computers.

Fetching of transactions for execution in the system is ~~caused to be~~ initiated by means of a call 6 incoming to the system from a telephone₁ or from an external computer to which a communications service is tied in the communications database 3 in the event of the call incoming to the data computer system 1.

The call 6 includes an information part 7 in the form of an identification 8 (ID) of the ~~called 8 (ID)~~ caller and an indication 9 of the type of call. The type of call ~~may~~ can be a voice call, a data communication, a transaction, etc.

According to the invention, a first part 1 of the computer system and also a second part 2, and also further parts of the data system₁ are given an execution environment whereby essentially all execution and all instructions from a computer

system 1 to other computer systems 2 in the data system ~~are caused to~~ take place through the agency of ~~said~~ the transactions. In ~~this~~ that regard, the information part 7 is transferred from a transmitting computer system 1 to a receiving computer system 2.

Each computer system includes a known type of computer 10, 11 with associated memories.

The execution environment is preferably the environment described in the ~~aforesaid~~ above-identified European patent specification.

In response to the ~~aforesaid~~ call 6, the data system functions to execute the steps of at least determining the identity 8 of the ~~user~~ caller and the type of call 9 concerned. In ~~this~~ that regard, the communications database 3 ~~[[;]]~~ , 4 causes the computer to fetch the transaction references that are tied to the ~~called party~~ caller and the type of call concerned. The type of call ~~may~~ can be a ~~speech~~ voice call, data communication, transactions, etc. The transaction references fetched define the services ~~which~~ that are called for and ~~which shall~~ that are to be executed. The computer ~~is caused to fetch~~ fetches on the basis of the fetched transaction references those transactions in the transaction database 5 that correspond to ~~said~~ the transaction references, ~~whereafter~~ after which the services are executed through the agency of ~~said~~ the transactions.

According to the present invention, certain transaction references identify transactions which, upon execution, cause the service in question to be transferred to a computer system 2 other than the call-receiving computer system 1, for execution in the ~~aforesaid~~ computer system 2, and wherein ~~said~~ the information part 7 is transferred in the transfer of ~~said~~ the service to the other computer system 2.

Thus, when a call arrives at the computer system 1, ~~said~~ the system fetches transaction references from the communications database 3, ~~whereafter~~ whereupon transactions corresponding to ~~said~~ the transaction references are fetched from the transaction database 5 and are executed in the first computer system 1. One or more of ~~these~~ those transactions ~~may~~ can cause the execution of ~~said~~ the service to be transferred, upon execution, to another computer system 2 via an API 12 (Application Program Interface). Thus, the service to be executed lands in the second computer system 2. Because the information part 7 accompanies the transfer, the second computer system will detect ~~this~~ that information part. ~~This~~ That enables the execution to be distributed to a manifold of computer systems.

According to a very important feature of ~~this~~ the transfer process, transaction references for the execution of a given service are transferred from a computer 10 to another computer 11 within the data system. The computer system to which the transfer is made thus obtains transaction references and fetches transaction-reference-corresponding transactions from ~~said~~ the transaction database. ~~This~~ That results in the transfer of only a small amount of data in comparison with the amount that would be transferred if all transactions were transferred.

In the event that a computer system does not have a transaction corresponding to a transferred transaction reference, the computer system that received the transaction references ~~is caused to return~~ returns the task to the computer system from which the task arrived.

However, in addition to transferring transaction references in the newly-mentioned case, a computer system ~~may~~ can also ~~be caused to~~ transfer one or more

transaction references with associated transactions to another computer system, provided that the transferring computer system is aware that the transactions are missing in the other computer system.

In order for the invention to obtain full effectiveness, it is essential that all of the ~~aforesaid~~ above-mentioned computer systems ~~are caused to~~ have mutually the same execution environment.

According to one preferred embodiment of the invention, respective communications databases ~~are also caused to~~ contain references to transactions concerning the further services that ~~may~~ can later be executed in response to a requested communications service. Such a further service ~~may~~ can be the transfer of execution to another computer system.

It is thus essential that the first computer system ~~is caused to~~ fetch transactions from ~~said~~ the transaction database corresponding to a service initiated by ~~said~~ the call in response to a direct call, or an indirect call via ~~said~~ the further computer, from a telephone, or from an external computer, ~~wherewith~~ wherein the first computer system ~~is caused to distribute~~ distributes transaction references to one or more of ~~said~~ the further computer systems, and ~~wherewith~~ wherein each of the last-mentioned computer systems ~~is caused to fetch~~ fetches transactions from respective computer-system transaction databases, in order to execute the service defined by the transaction references.

An illustrative example in this case ~~may~~ can be the price or tariff set for a telephone or data service. In ~~this~~ that respect, a number of the first computer systems

1 may be located at different places in the country for ~~administering~~ administering telephone services or data services on behalf of clients in different parts of the country.

When a call 6 arrives at the first computer system, the service is connected between the calling subscriber and the desired contact. ~~This~~ That connection is effected by executing transactions in the first computer system. One or more transactions concerns price setting and a transfer of the price setting procedure to the second computer system. The second computer system receives transaction references from the first computer system, which causes the second computer system 2 to fetch transaction references relating to price setting from its communications database 4. ~~These~~ Those transactions have been exemplified in Figure 1 by the references TRS.10 and TRS.11.

~~These~~ Those transactions are executed in the second ~~data~~ computer system 2, ~~wherewith~~ wherein the transactions cause, among other things, a price-setting database 13 to be called and the price stored in a memory 14 and then later billed to the client whose information part 7 was transferred from the first computer system to the second computer system in respect of the call 15 between the computer systems.

The present invention is in no way limited to the execution of the described service.

Although the invention has been described with reference to a number of embodiments thereof, it will be understood that the computer systems ~~may comprise~~ can include more than two systems, and that the systems ~~may~~ can be adapted to those services, or the like, to be executed.

The present invention ~~shall~~ should therefore not be considered to be restricted to the above-described exemplifying embodiments thereof, since variations and modifications can be made within the scope of the accompanying ~~Claims~~ claims.

CLAIMS

What is claimed is:

ABSTRACT OF THE DISCLOSURE

A method of achieving co-acting services in a data system that includes telephone or data services and at least two computer systems. A transaction database connected to each computer contains transactions that are identified by transaction references, where each transaction is part of a data program for executing a service. Fetching of transactions for execution in the data system is initiated in response to an incoming call from a telephone or from an external computer. The call includes an identification of the caller and type of call. All instructions from one computer system to another takes place through the agency of the transactions, wherein certain transaction references identify transactions that upon execution transfer the service to a computer system other than the call-receiving computer system for execution. Caller information is transferred together with the transfer of the service.

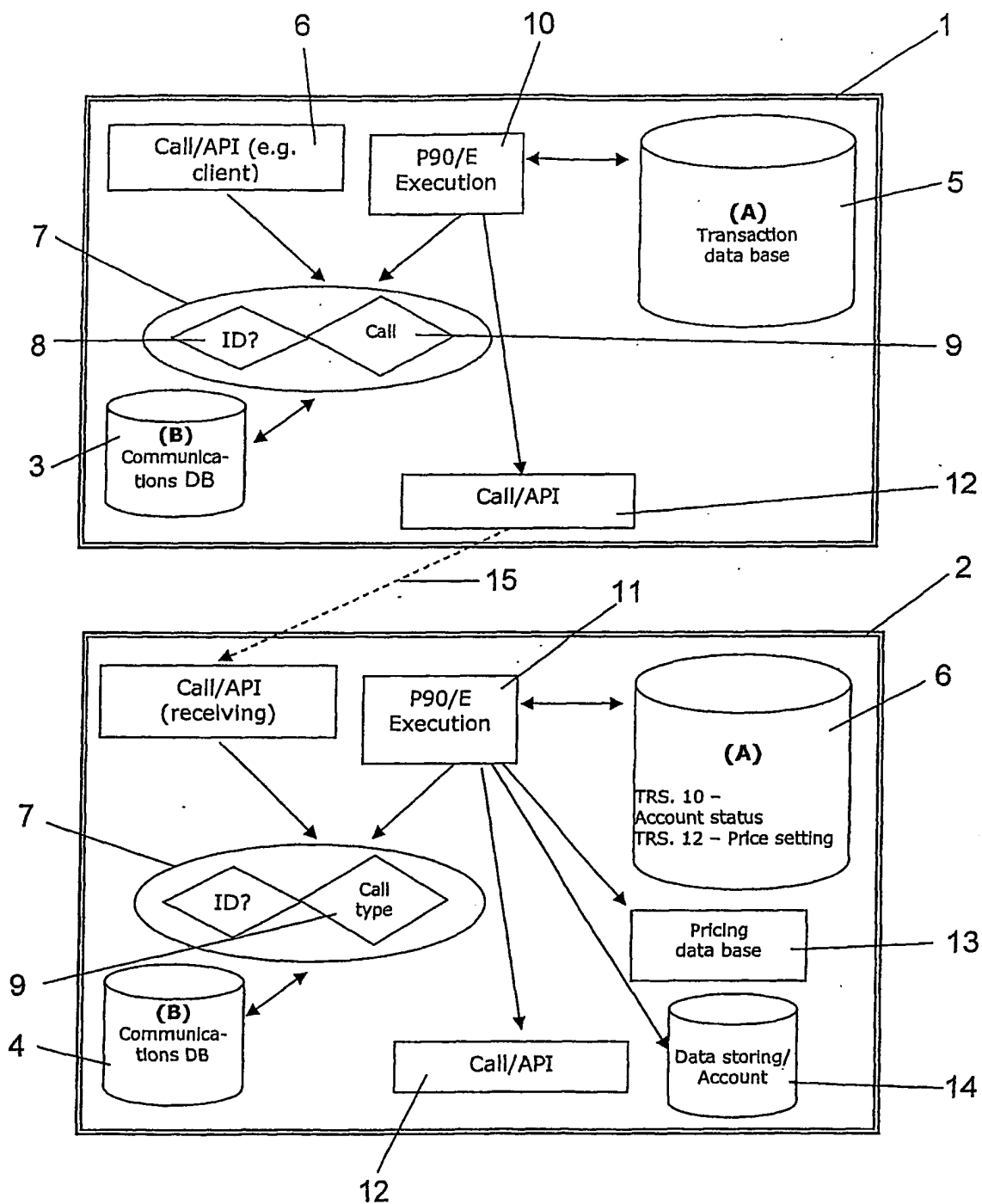


Fig. 1